Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

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| Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services Including Third Generation Wireless Systems | ) ) ) ) ) | ET Docket No. 00-258 |

**COMMENTS OF ARRAYCOMM, INC.**

ArrayComm, Inc. hereby submits the following comments to the Commission's request for views on a paper issued by the National Telecommunications and Information Administration (NTIA) entitled: "An Assessment of the Viability of Accommodating Advanced Mobile Wireless (3G) Systems in the 1710-1770 MHz and 2110-2170 MHz Bands."

Respectfully submitted,


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ArrayComm, Inc. (hereinafter, ArrayComm) welcomes the opportunity to express its views on "An Assessment of the Viability of Accommodating Advanced Mobile Wireless (3G) Systems in the 1710-1770 MHz and 2110-2170 MHz Bands." This Assessment is the product of a task force, composed of representatives from NTIA, FCC, DOD and other federal agencies.

The conclusion of the task force is that 90 MHz of spectrum could be made available for 3G no later than 2008. Forty-five MHz would come from spectrum presently allocated to USG operations in the 1710-1755 MHz band and 45MHz would come from spectrum in the 2110-2170 MHz band, presently administered by the Commission.

ArrayComm joins the land mobile community in expressing support for this proposal. As the Assessment notes, many other countries have already allocated spectrum for 3G. The United States can now begin to formulate and implement plans to bring the benefits of these services to our citizens as well.

We should not overlook, at the outset, the benefits that can accrue to the Federal Government systems that will be displaced. The Assessment calls for these systems to be relocated at no cost to the Government. ArrayComm is aware that this relocation process does not by itself provide additional spectrum for Federal Government use. Because spectrum will continue to be scarce, it will be imperative that all of its spectrum be put to its best and most efficient use. This is not a new problem for the Government. In the FY 1993 budget for NTIA, Congress included a provision, the Telecommunications Authorization Act of 1992, [Public Law No. 102-538] requiring NTIA to establish a plan for Federal agencies to use more efficient technologies.

Pursuant thereto, in 1994, NTIA issued Report 94 311 entitled " A Survey of Relative Spectrum Efficiency of Mobile Voice Communication Systems" which compared a variety of systems that were operating in the commercial sector at that time. Based on that Survey, a

number of federal agencies modified their systems to a state-of-the-art level. Technology has advanced substantially since 1994, however, and the Survey has not been up-dated. (As the Survey acknowledged, even in 1994 it did not include all technologies extant at that time. Data services, for example, were not included).

Now there will be an opportunity, particularly for these displaced agencies that will be moving into virgin spectrum, to put systems into operation that incorporate up-to-date technologies. Many of these new technologies are more spectrally efficient than their predecessors. Spectrum efficiency will be more important than ever. The spectrum "lost" to the Government by this reallocation must be made up and more. In ArrayComm's view, this opportunity to operate brand-new systems carries a commensurate responsibility to utilize the new spectrum with better efficiency than that of their present systems.

3G systems in the commercial or private sector must also be spectrally efficient. Ninety MHz is a significant allocation. However, no one is contending that it is a final answer. It is short of the amount of spectrum that private sector studies indicated was needed. If 90 MHz is to meet 3G needs for the foreseeable future, those needs must be clearly identified. Allocation decisions must allow the requisite flexibility for those technologies which are capable of providing 3G services efficiently to obtain spectrum. The International Telecommunications Union (ITU) has recommended system requirements in the form of bit rate ranges for different operating environments, for the radio interfaces of IMT-2000 or 3G. See Recommendation ITU-R M. 1043-1

Fortunately, one of the factors that may have inhibited the introduction of new services in existing 2G bands will not exist in the 90 MHz under consideration here. ArrayComm has noted, as have others, that recent auction winners have tended to provide services, similar to what their competition provides, or are identical to what they themselves already provide. One of the

reasons given for this replication has been a desire to achieve further usage of their existing systems, rather than incur the cost of a new one. This is understandable. In the absence of a demonstrable public demand for new services, high-speed data, for example, these operators have favored a transitional approach that would introduce a new service as an adjunct to the old.

Now, however, that consideration will no longer exist. As is the case in Europe, and elsewhere, there will be spectrum for systems dedicated to providing 3G services. Thus, ArrayComm would caution the Commission to examine its assignment choices from a broader perspective. We note that the Assessment already postulates how this 90 MHz ought to be assigned: in pairs. That is an FDD accommodation which not only is not the sole possible assignment arrangement, but may not even be the best one for the rendition of many 3G services. It has been pointed out previously, that the allocation of spectrum and the assignment of that spectrum to licensees should be distinguished. Ninety MHz allocated for 3G is one thing, but how it should be assigned should be the choice of the auction winner/ licensee. To allow for that choice to be made, the Commission should, in turn, allow for enough flexibility so that FDD,TDD or any other candidate technology has an equal opportunity to be employed.

Finally, ArrayComm would like to stress, as it did with respect to new federal government systems, the high premium that should be placed on spectrum efficiency. In some instances, the desire to maximize the financial return on existing systems may have been at the expense of maximum spectrum efficiency. Adhering to outmoded technical standards, such as present OOBE rules, may have reduced effective usage. Now, however, there will be an opportunity to start afresh. Allocations can have proper separations, whether FDD/FDD or FDD/TDD or TDD/TDD, with far less concern that a "stranger" will impair effective communications.

The recently-formed Spectrum Management Task Force will be concentrating on existing spectrum and existing systems, although its findings on interference and how it can be alleviated will certainly be useful. The 90 MHz under consideration here, however, is new spectrum available for new systems. New levels of spectrum efficiency can be set and achieved. The Commission should assure that this opportunity is not lost.